

Title (en)
LIGHT EMITTING DEVICE WITH DISLOCATION BENDING STRUCTURE

Title (de)
LICHEMITTIERENDE VORRICHTUNG MIT BEUGUNGSSTRUKTUR FÜR VERSETZUNGEN

Title (fr)
DISPOSITIF ÉMETTEUR DE LUMIÈRE COMPRENANT UNE STRUCTURE POUR COURBER LES DISLOCATIONS

Publication
EP 2673811 A2 20131218 (EN)

Application
EP 12744787 A 20120211

Priority
• US 201161441674 P 20110211
• US 201213370470 A 20120210
• US 2012024774 W 20120211

Abstract (en)
[origin: US2012205619A1] A solution for reducing a number of dislocations in an active region of an emitting device is provided. A dislocation bending structure can be included in the emitting device between the substrate and the active region. The dislocation bending structure can be configured to cause dislocations to bend and/or annihilate prior to reaching the active region, e.g., due to the presence of a sufficient amount of strain. The dislocation bending structure can include a plurality of layers with adjacent layers being composed of a material, but with molar fractions of an element in the respective material differing between the two layers. The dislocation bending structure can include at least forty pairs of adjacent layers having molar fractions of an element differing by at least five percent between the adjacent layers.

IPC 8 full level
H01L 33/12 (2010.01); **H01L 21/02** (2006.01); **H01L 33/02** (2010.01); **H01L 33/00** (2010.01); **H01L 33/04** (2010.01)

CPC (source: CN EP KR US)
H01L 21/02458 (2013.01 - CN EP US); **H01L 21/02507** (2013.01 - CN EP US); **H01L 21/0254** (2013.01 - CN EP US); **H01L 33/02** (2013.01 - KR); **H01L 33/025** (2013.01 - KR); **H01L 33/04** (2013.01 - CN EP US); **H01L 33/12** (2013.01 - KR); **H01L 33/007** (2013.01 - CN EP US); **H01L 33/025** (2013.01 - CN EP US); **H01L 33/12** (2013.01 - CN EP US); **H01S 2301/173** (2013.01 - CN EP US)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
US 2012205619 A1 20120816; **US 8633468 B2 20140121**; CN 103597618 A 20140219; CN 103597618 B 20161221; EP 2673811 A2 20131218; EP 2673811 A4 20140521; EP 2673811 B1 20171213; JP 2014509077 A 20140410; JP 5775179 B2 20150909; KR 101631158 B1 20160616; KR 101677227 B1 20161117; KR 20130116363 A 20131023; KR 20150103299 A 20150909; KR 20160006246 A 20160118; TW 201304185 A 20130116; TW 201613128 A 20160401; TW I529960 B 20160411; TW I610458 B 20180101; WO 2012109629 A2 20120816; WO 2012109629 A3 20121011

DOCDB simple family (application)
US 201213370470 A 20120210; CN 201280013116 A 20120211; EP 12744787 A 20120211; JP 2013553626 A 20120211; KR 20137024044 A 20120211; KR 20157022329 A 20120211; KR 20157036771 A 20120211; TW 101104589 A 20120213; TW 104144527 A 20120213; US 2012024774 W 20120211